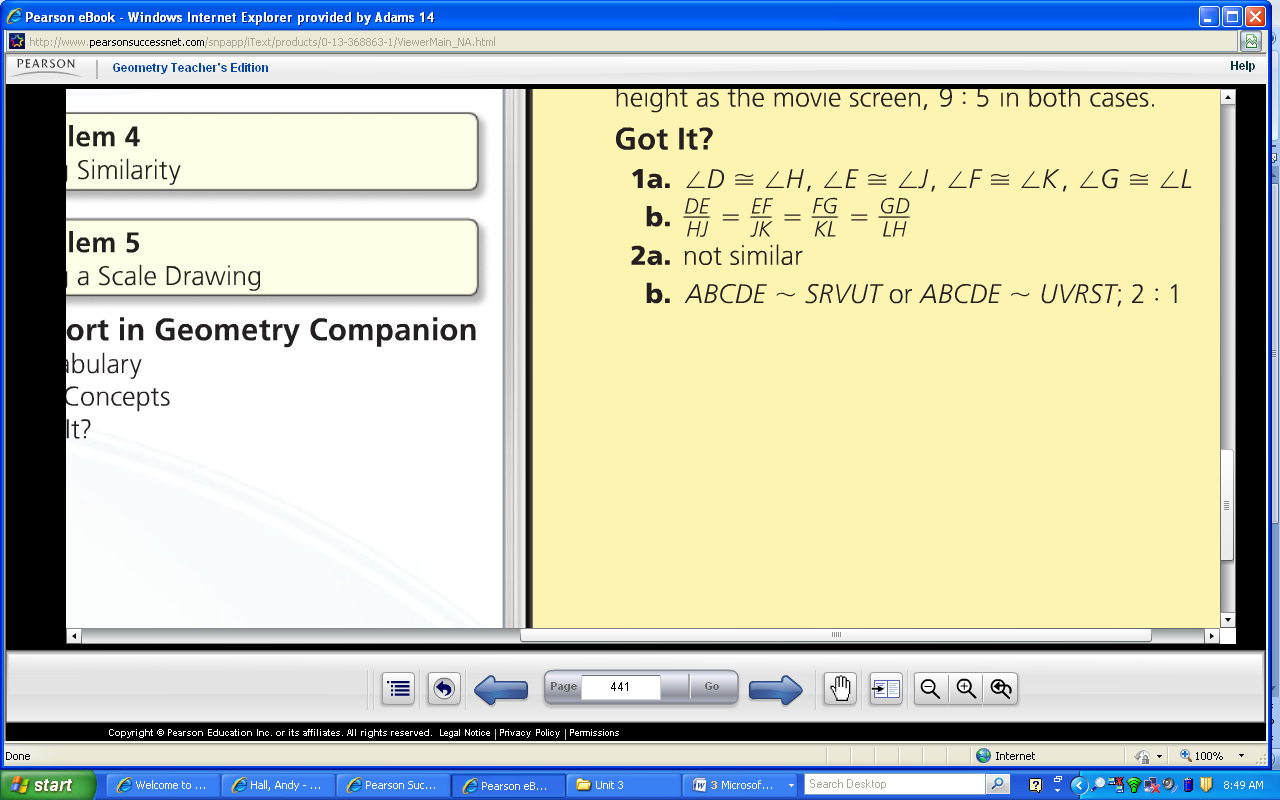
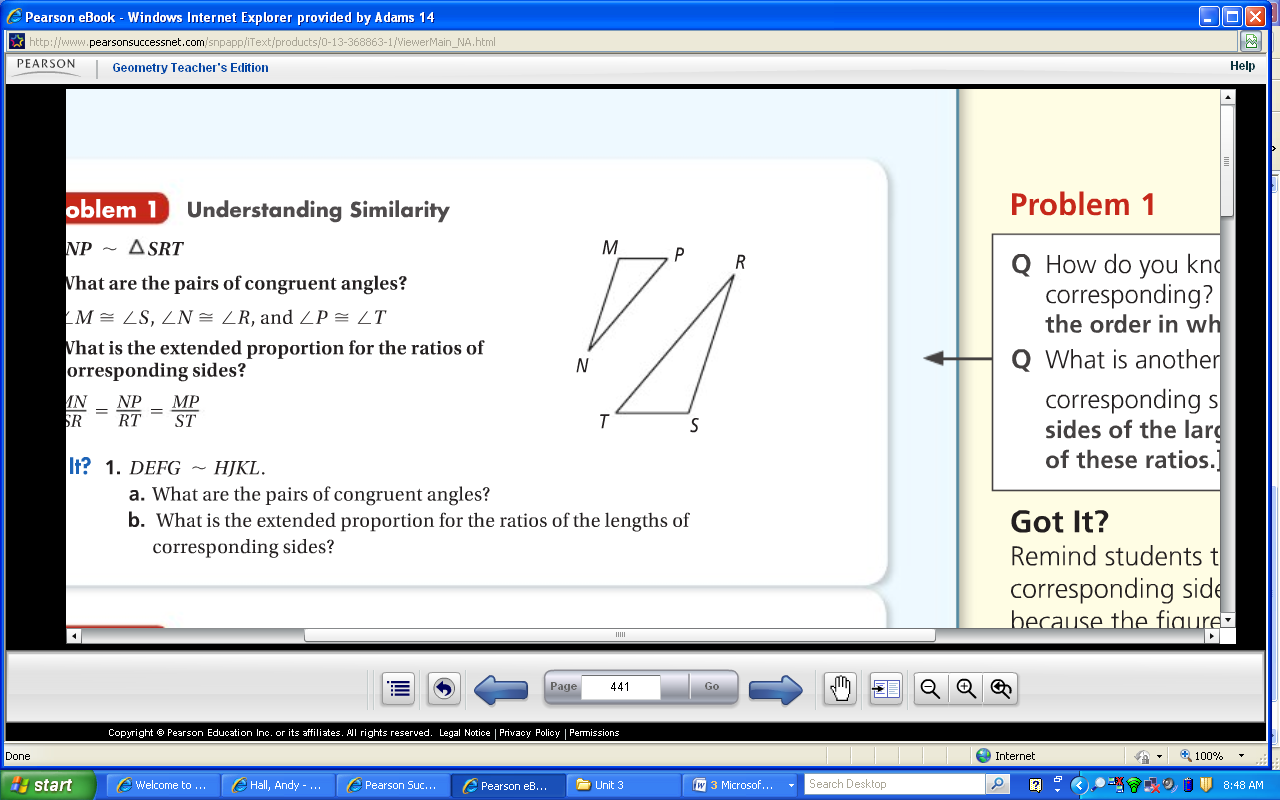
**Warm-up**

What are the corresponding sides and angles in these similar figures?

()



**Notes**

Similar Polygons- Two polygons are similar if corresponding angles are congruent and if the lengths of corresponding sides are proportional. (Same shape, different size)

Determining if two polygons are similar

Step 1: Determine if all corresponding angles are congruent.

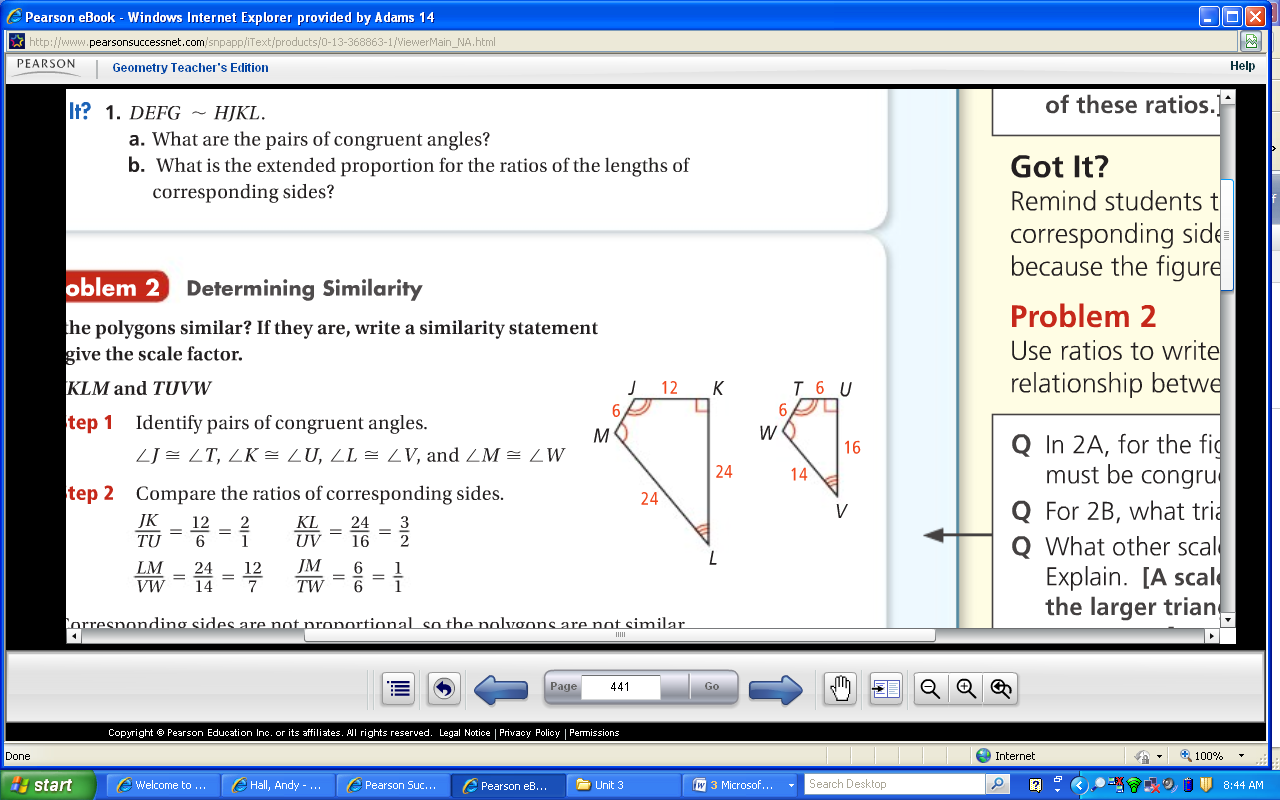
Step 2: Compare the ratios of corresponding sides. If the ratios of corresponding sides all reduce to the same number, then the two polygons are similar. If they don’t, then they aren’t similar.

Step 3: If similar, determine the scale factor. The scale factor is the number that all the ratios reduced to.

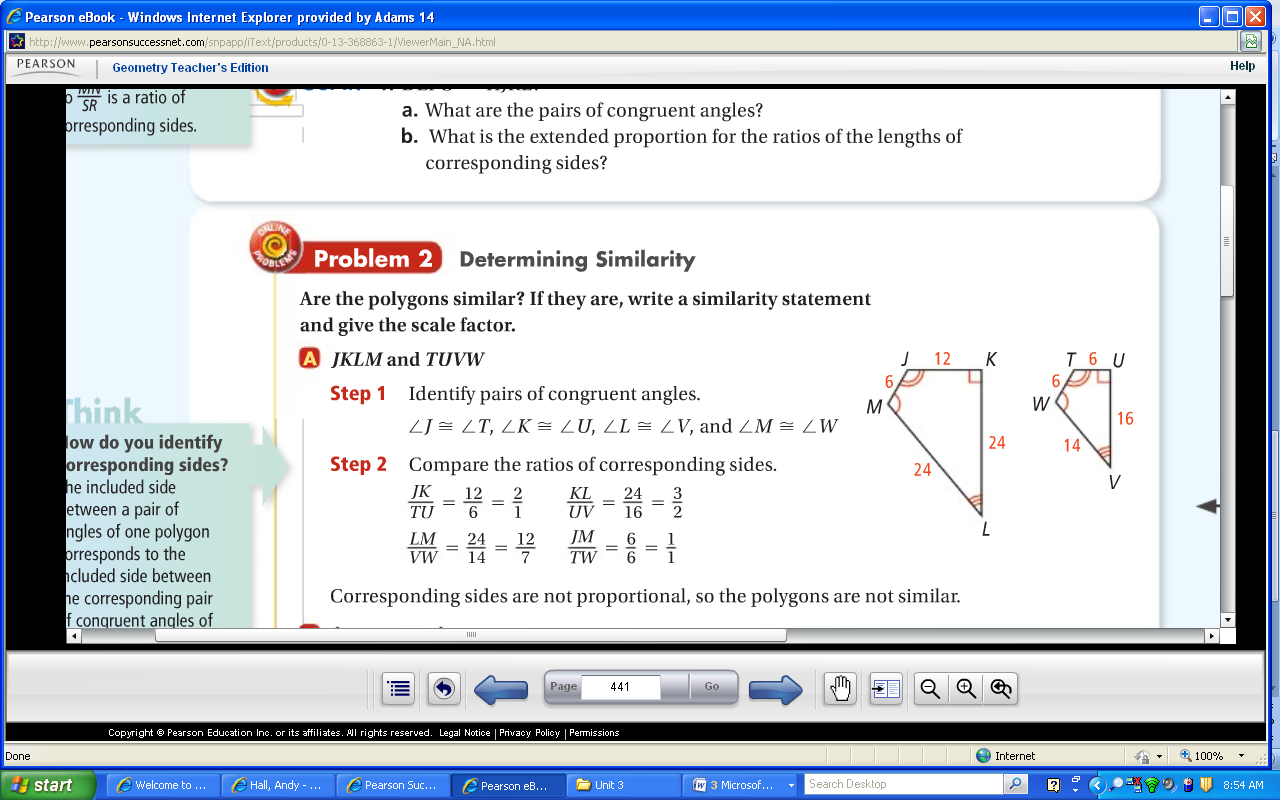
Example of similar Example of not similar

I Do

1. Determine if the following two polygons are similar. If they are, determine the scale factor.

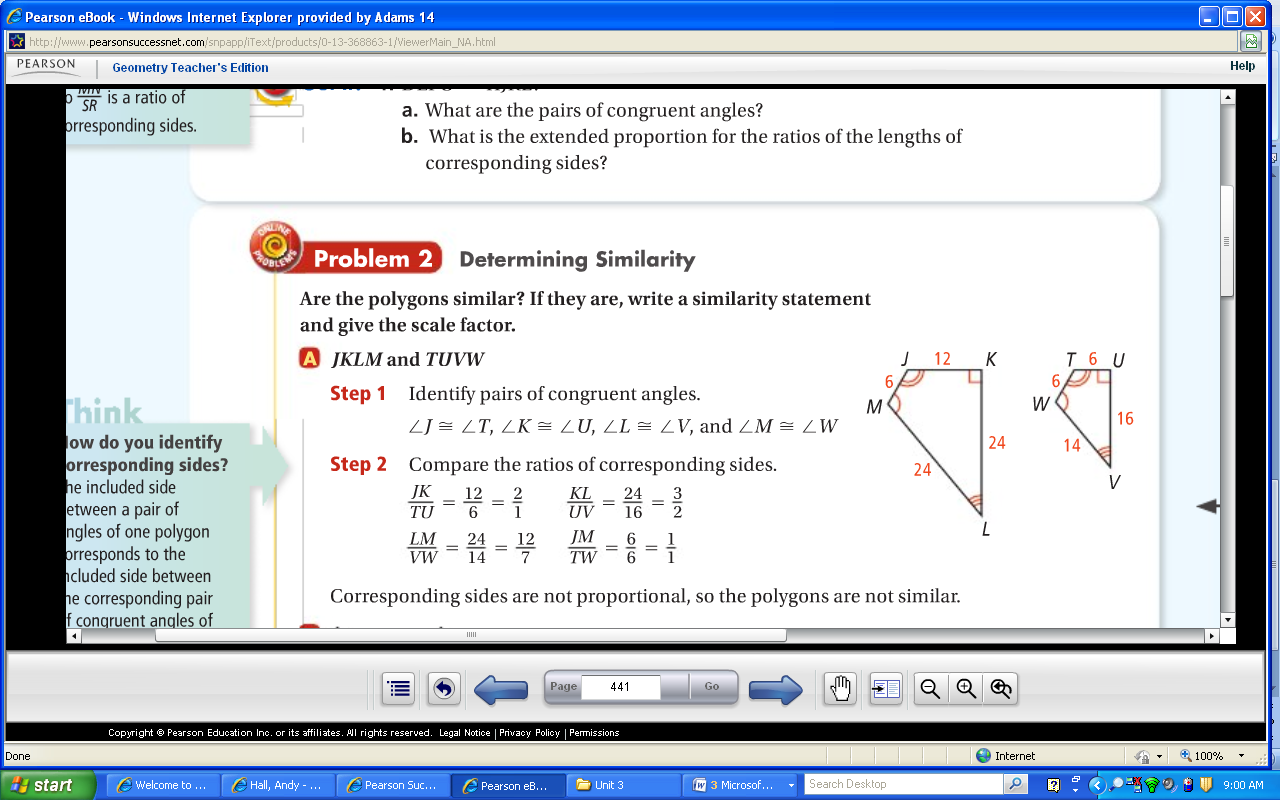


Step 1: Are all corresponding angles congruent?

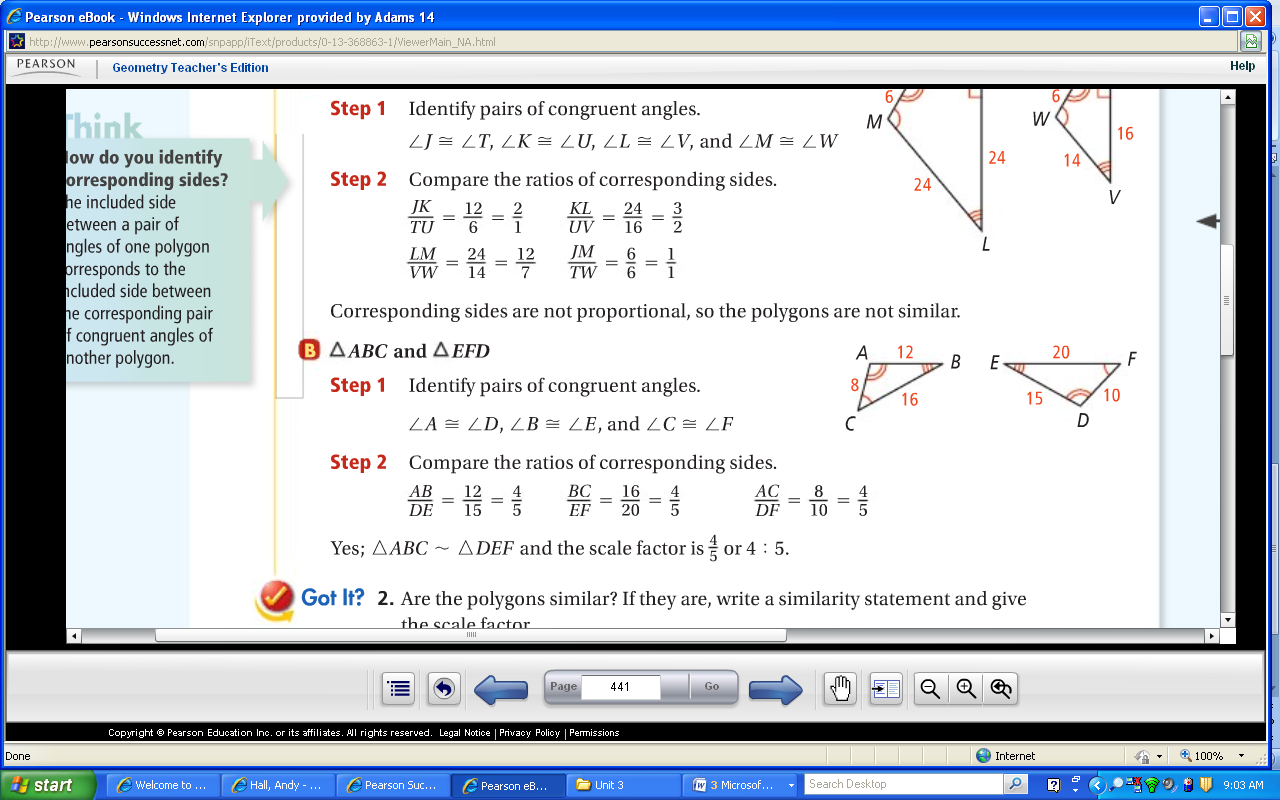
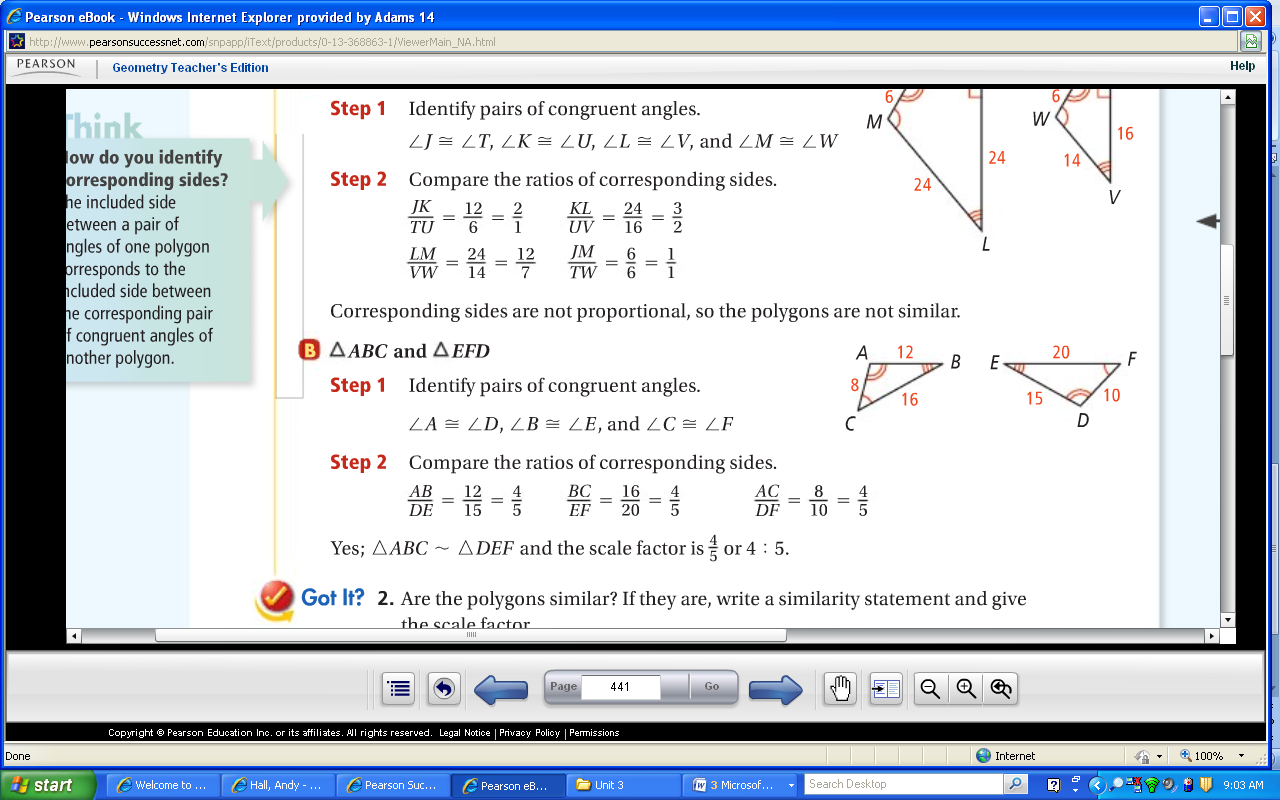
Yes, because .

Step 2: Are the ratios of corresponding sides all the same?

No because

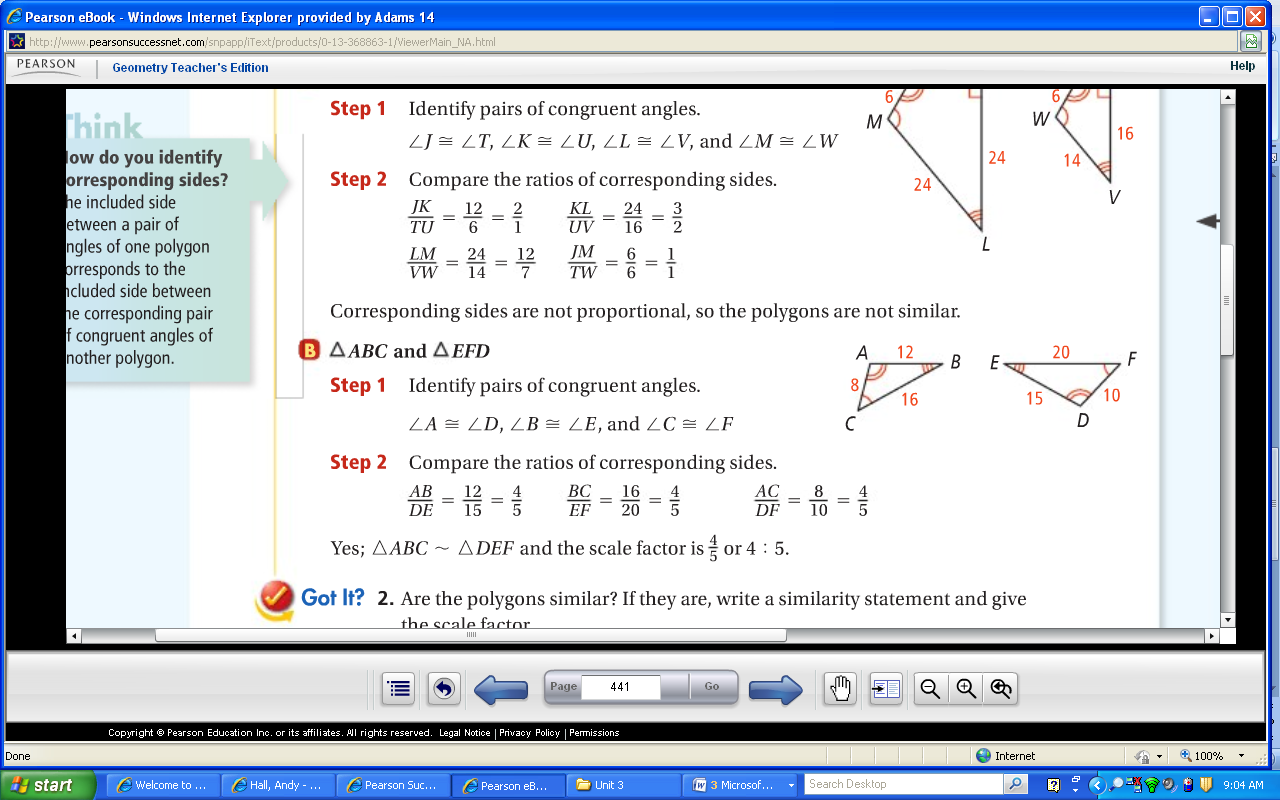


If they were similar, they would all reduce to the same number but they didn’t.2. Determine if the following two polygons are similar. If they are, determine the scale factor.

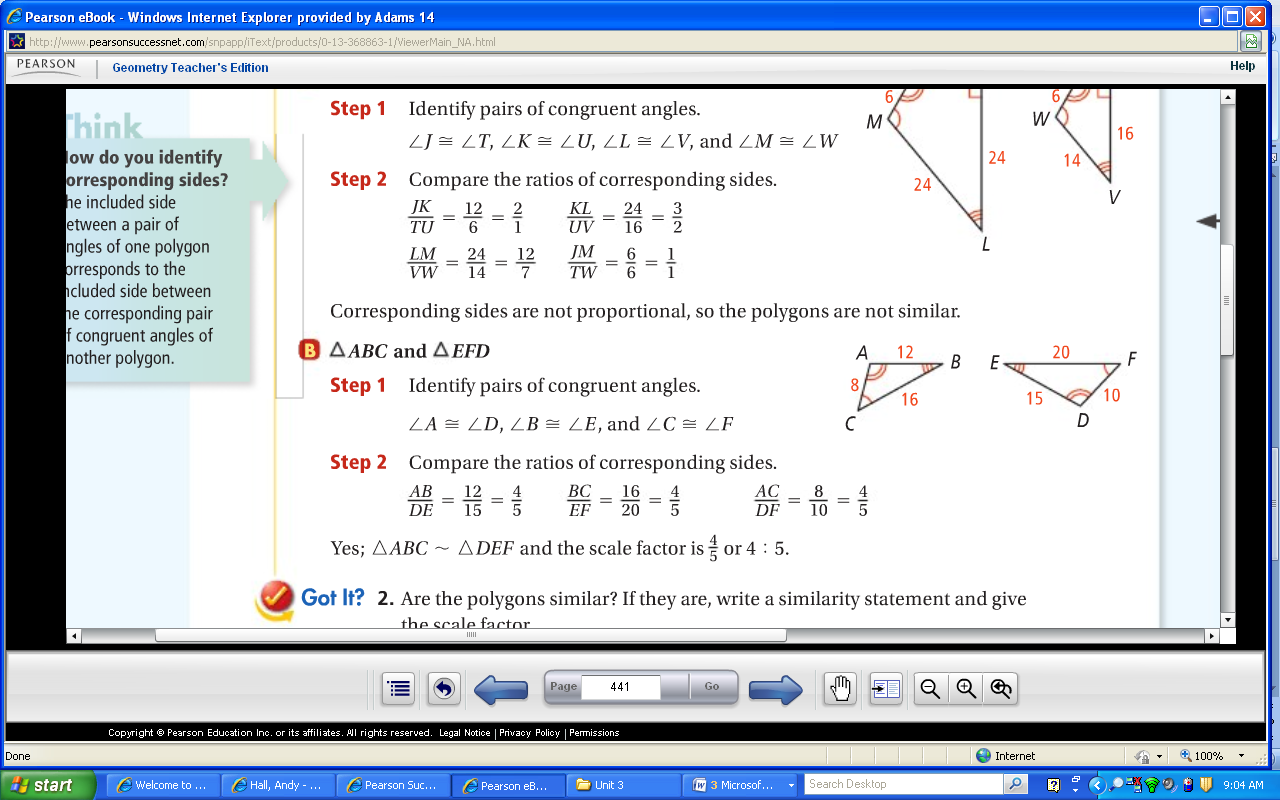
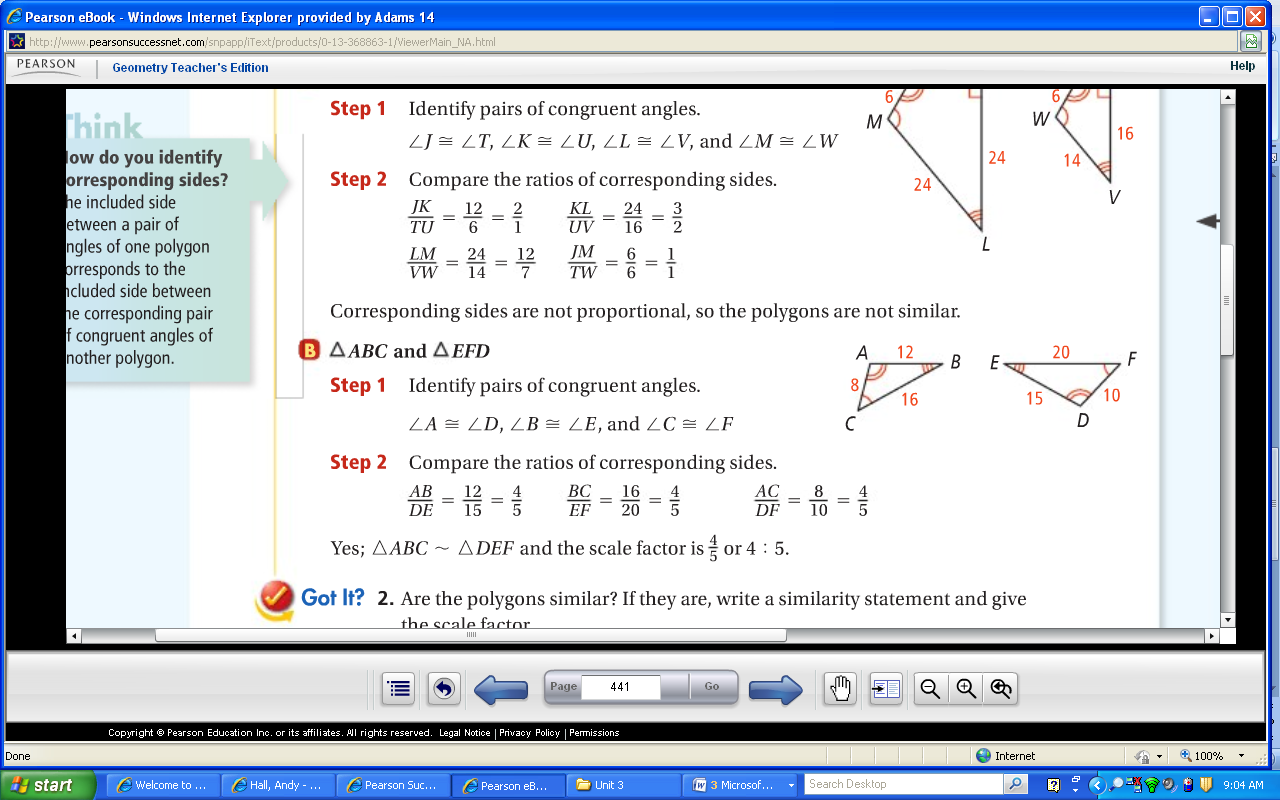


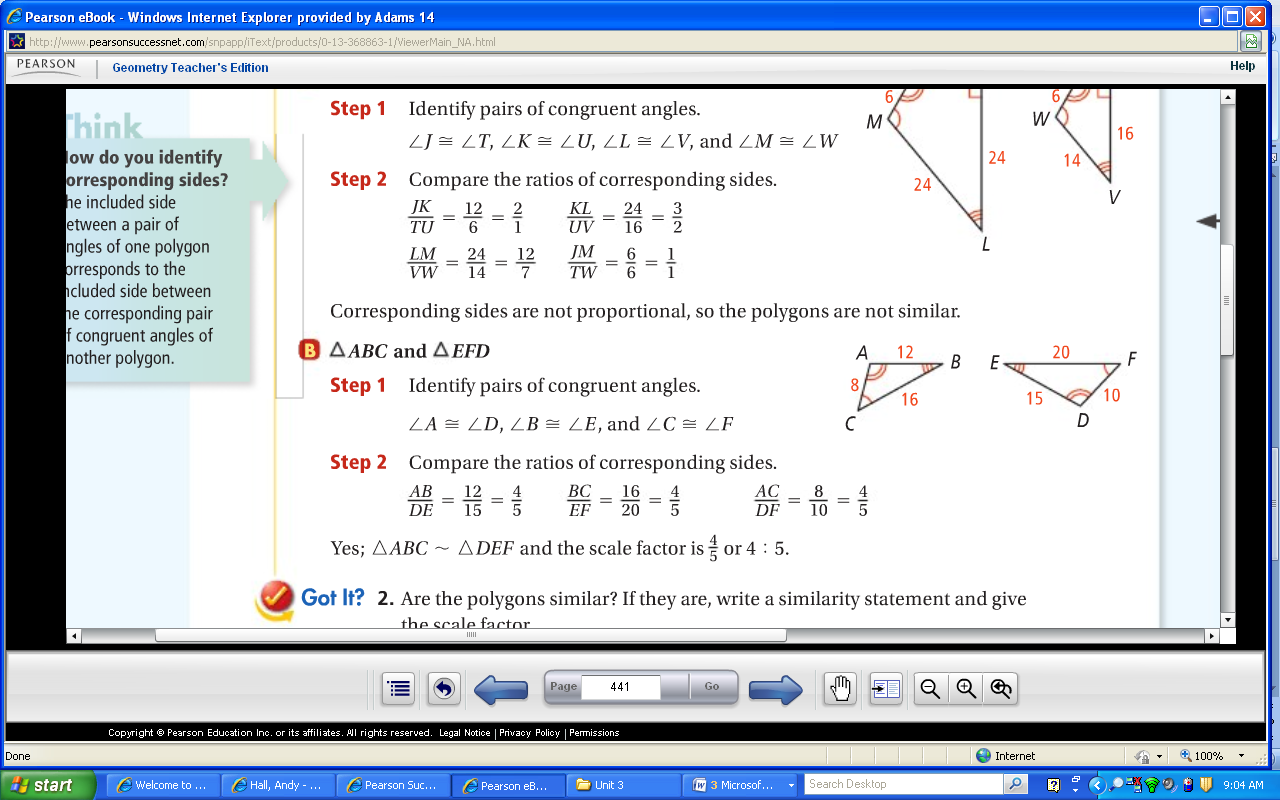
Step 1: Are all corresponding angles congruent?

Yes, because

.

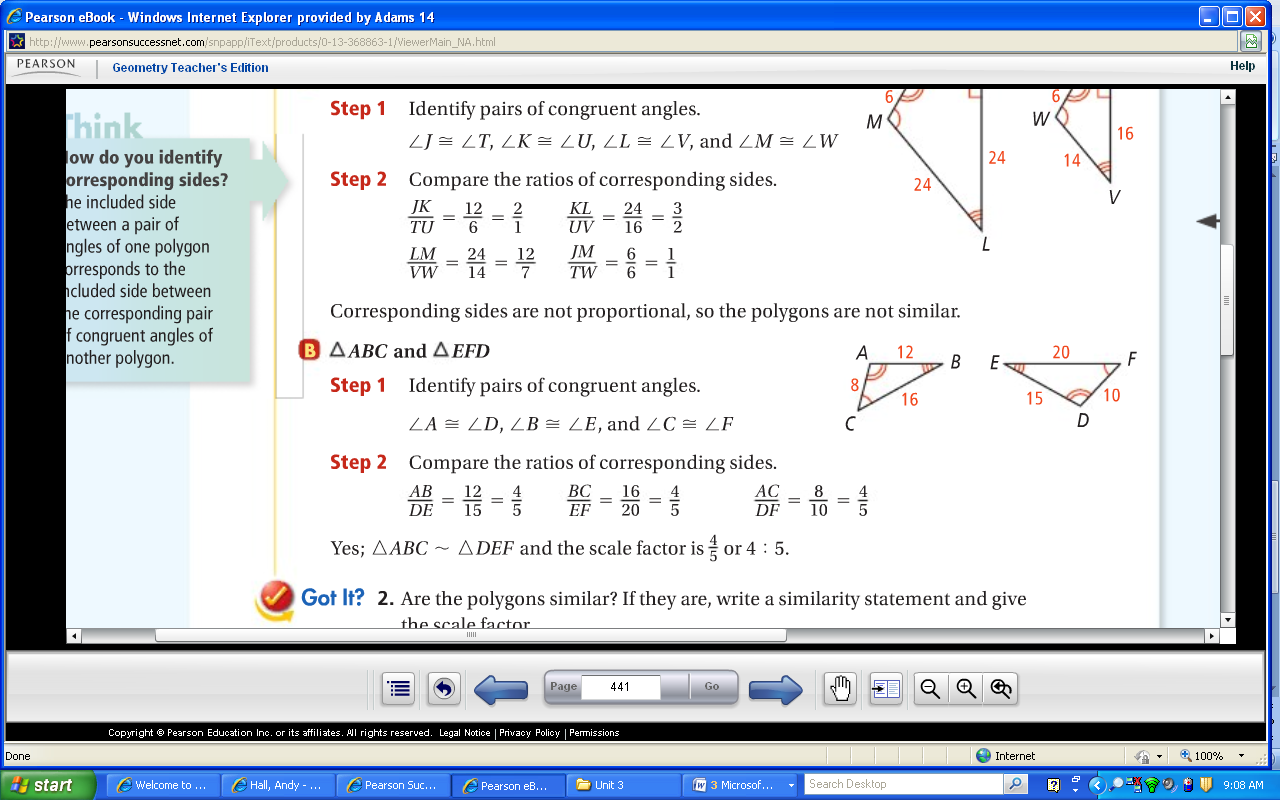
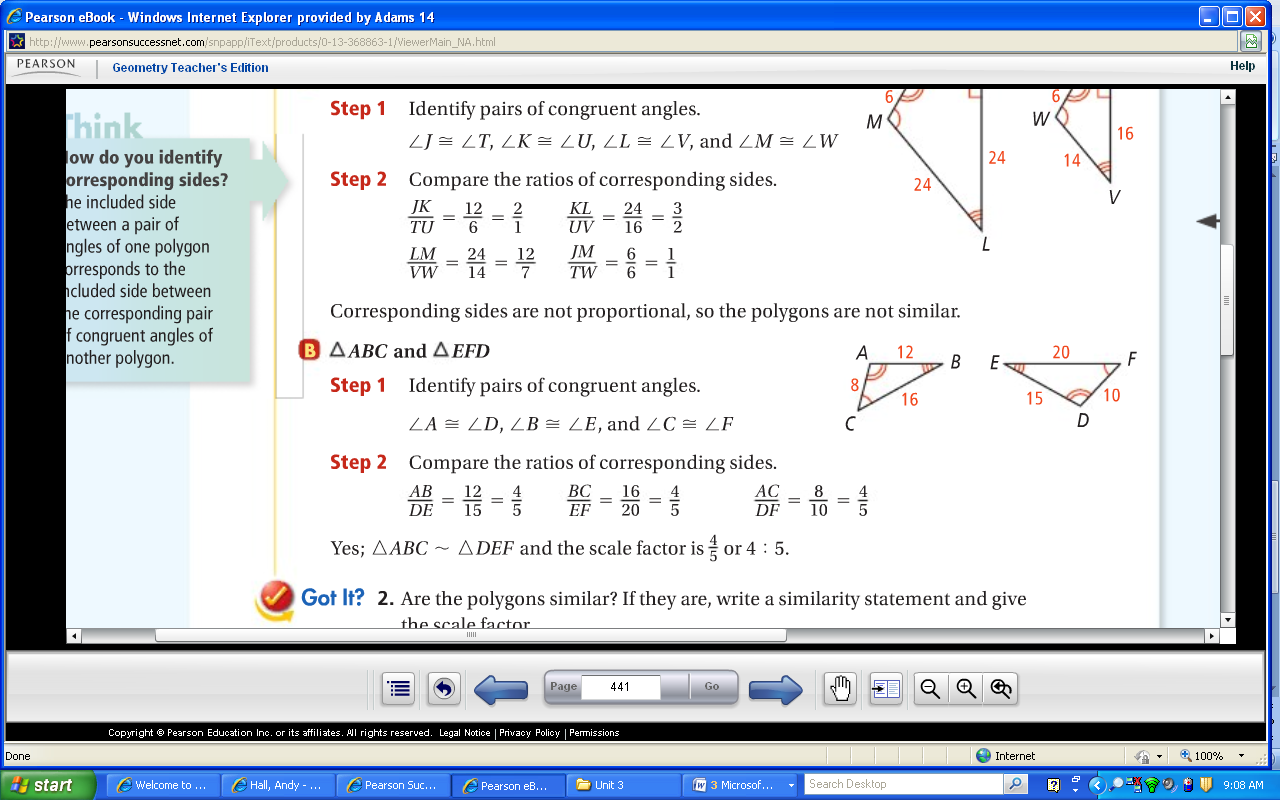
Step 2: Are the ratios of corresponding sides all the same?

Yes because , ,



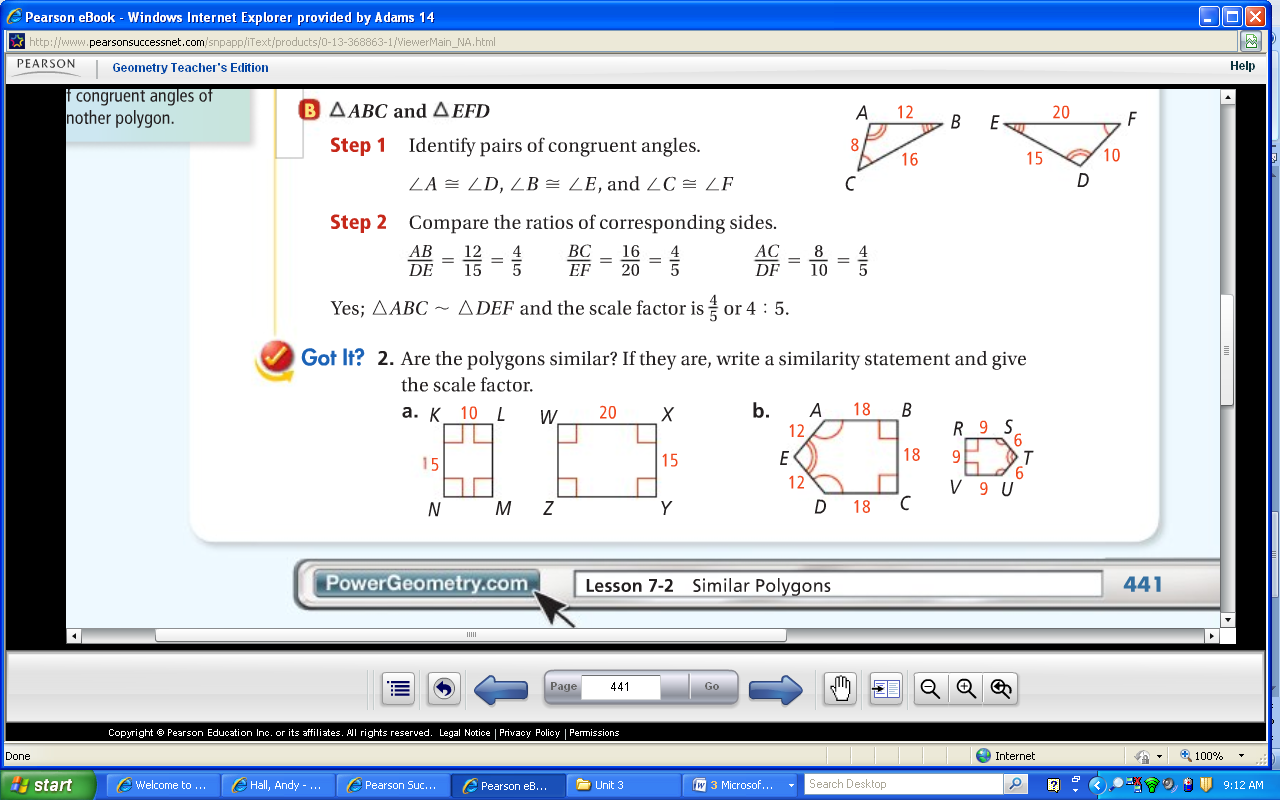
They were similar, because they all reduce to the same number.

Step 3:



We Do

3. Determine if the following two polygons are similar. If they are, determine the scale factor.



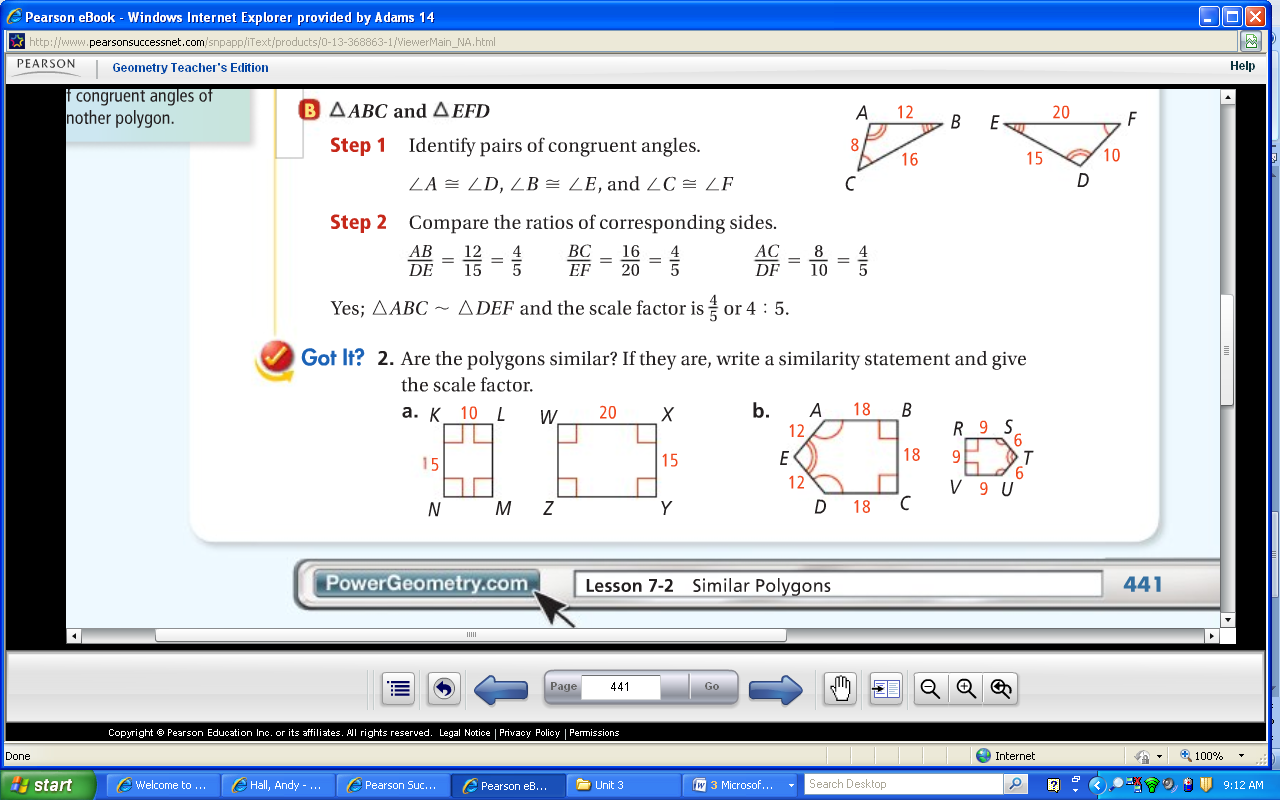
Step 1: Are all corresponding angles congruent?

Yes, because all angles are 90 degrees.

Step 2: Are the ratios of corresponding sides all the same?

No because

If they were similar, they would all reduce to the same number but they didn’t so they are **not similar**.4. Determine if the following two polygons are similar. If they are, determine the scale factor.



Step 1: Are all corresponding angles congruent?

Yes, because

.

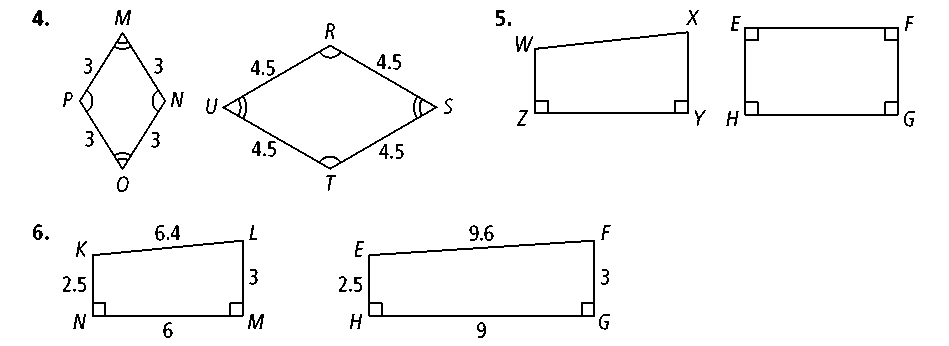
Step 2: Are the ratios of corresponding sides all the same?

Yes because

They were similar, because they all reduce to the same number.

Step 3: They are **similar** and the scale factor is 2.

Final Check

5. Determine if the following two polygons are similar. If they are, determine the scale factor.

Step 1: Are all corresponding angles congruent?

Yes, because

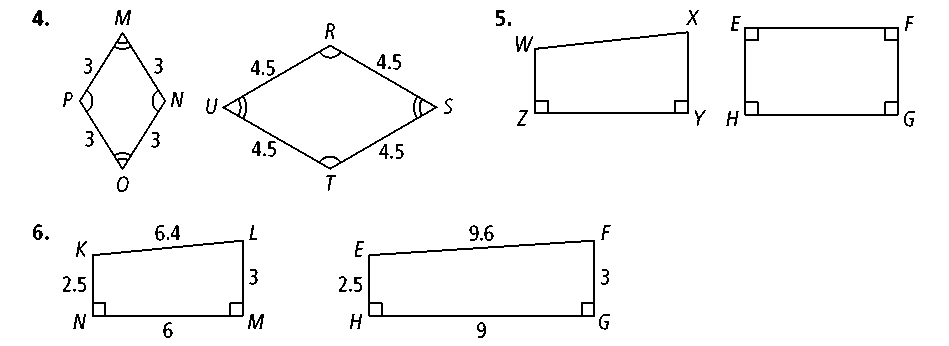
.

Step 2: Are the ratios of corresponding sides all the same?

Yes because

They are similar because they all reduce to the same number.

Step 3: They are similar and the scale factor is 2/3.

6. Determine if the following two polygons are similar. If they are, determine the scale factor.

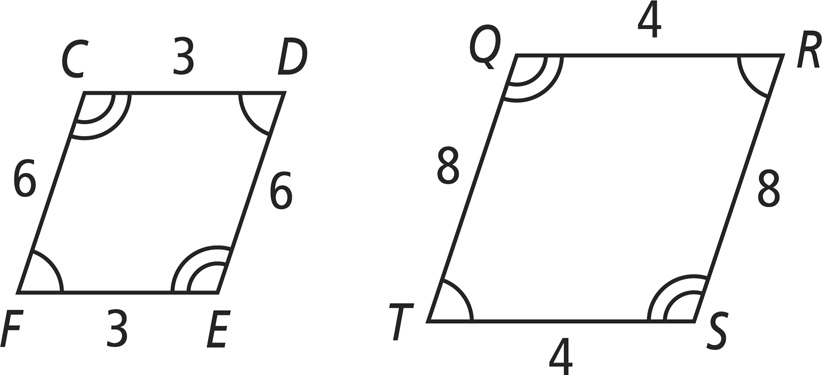
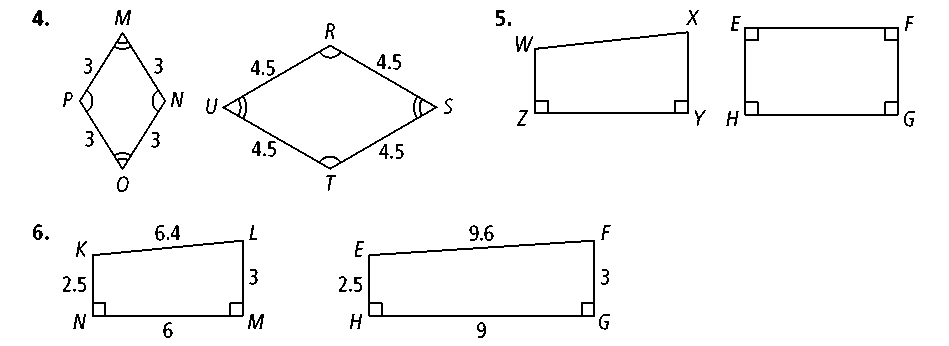
Step 1: Are all corresponding angles congruent?

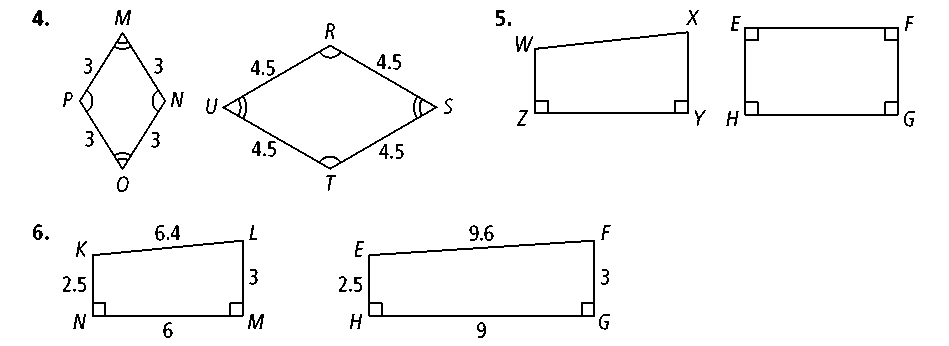
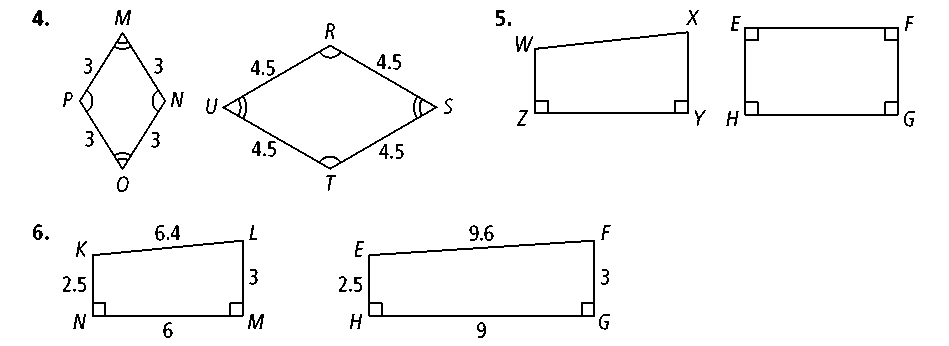
No because one has all 90 degree angles and the other doesn’t so corresponding angles are not congruent. Therefore, they are not similar.

For each problem, determine if the following two polygons are similar. If they are, determine the scale factor. Complete the following steps for each:

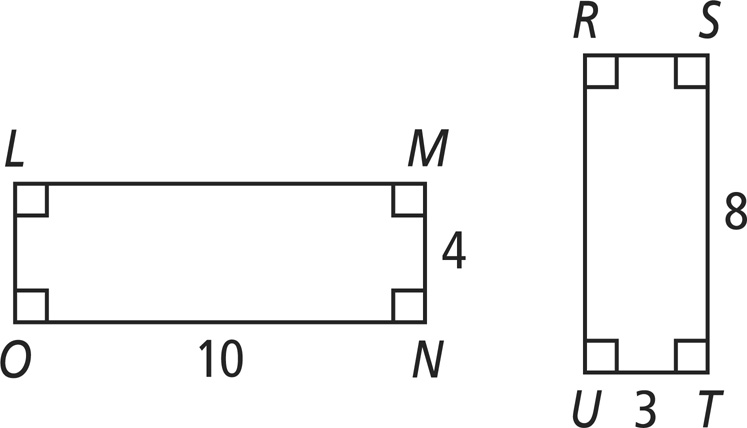
Step 1: Are all corresponding angles congruent?

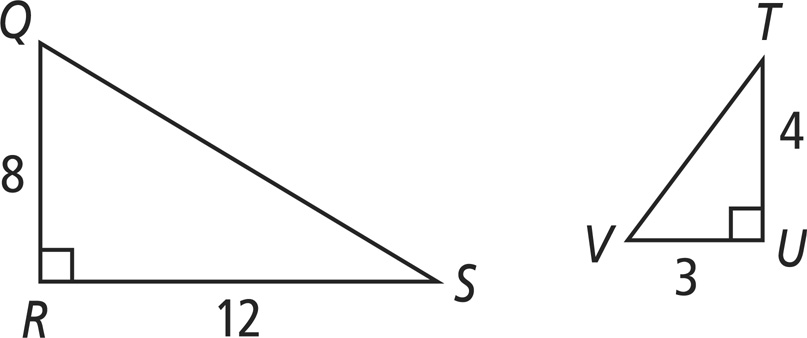
Step 2: Are the ratios of corresponding sides all the same?

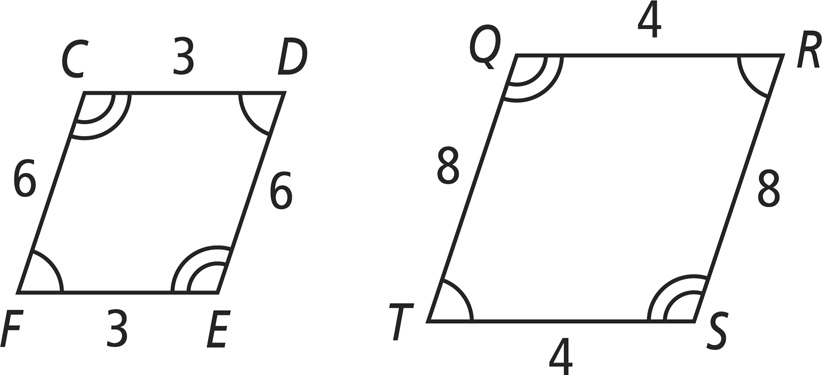
Step 3 (if necessary): What is the scale factor?

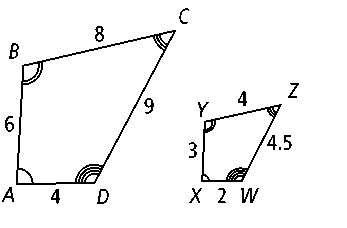


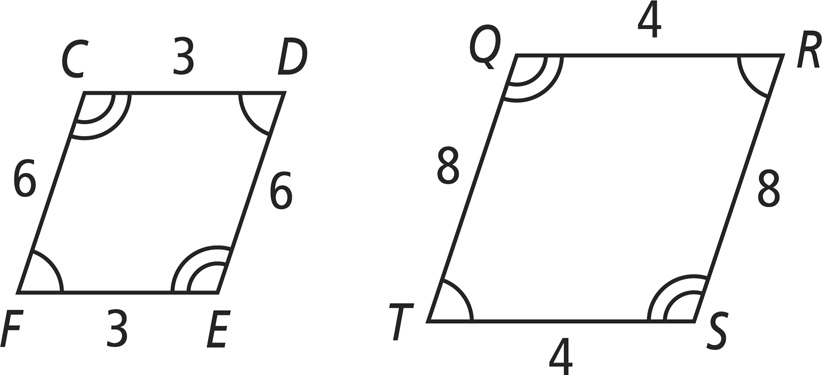
1. 2.

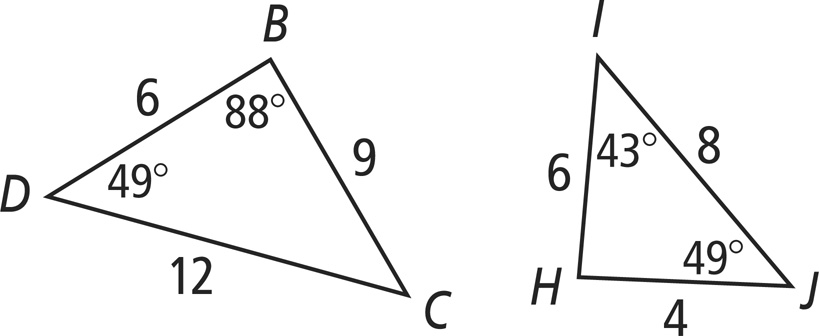




3. 4.





5. 6.